Chapter 2

Undergraduate Enrollment

Overview

Differences in completion of bachelor's degrees in science and engineering by sex, race/ethnicity, and disability status are related to differences in high school completion rates, college enrollment rates, college persistence and attainment rates, and choice of undergraduate major. In general, blacks and Hispanics are less likely than whites and Asians to graduate from high school, to enroll in college, and to graduate from college. Among those who do enroll in or graduate from college, however, blacks, Hispanics, and American Indians are about as likely as whites to choose S&E fields; Asians are more likely than members of other racial/ethnic groups to choose these fields. Similarly, students with disabilities are less likely than those without to graduate from high school, to enroll in college, and to graduate from college; however, they are about as likely as those without disabilities to major in S&E. On the other hand, women are more likely than men to graduate from high school and to enroll in college. Although they are just as likely as men to graduate from college, they are less likely to major in science and engineering in general and in certain S&E fields in particular.

Enrollment rates

College enrollment rates differ between men and women and among the various racial/ethnic groups. Women are more likely than men, and whites and Asians are more likely than members of other racial/ethnic groups, to enroll in college. The reasons for these different rates of enrollment are varied, with the literature citing such factors as differences in academic preparation and in family characteristics, including family structure, parental education, and family income (U.S. ED/NCES 1998).

Women

Women are more likely than men to attend college. Among the 25- to 29-year-old population in 2000 that had completed high school, women were more likely than men to have attended college—69 percent of women and 64 percent of men had completed some college. (See appendix table 2-1.) Women are also more likely than men to enroll in college immediately following high school. Among 1999 high school completers aged 16 to 24, 64 percent of women compared to 61 percent of men were enrolled in college the October after high school graduation (U.S. ED/NCES 2000a).

In 1997, women accounted for more than half (56 percent) of total undergraduate enrollment at all institutions.[1] (See appendix table 2-2.) Women have constituted more than half of all undergraduates since 1978. The number of female undergraduates remained relatively constant throughout the 1990s, fluctuating between 6.9 and 7.0 million from 1991 through 1997. The number of male undergraduates also remained relatively constant, fluctuating between 5.5 and 5.6 million over the same period. Total undergraduate enrollment is projected to rise through 2009, especially among women, full-time students, students under 22 years old, and students at 4-year institutions (U.S. ED/NCES 2000a).

Minorities

Blacks and Hispanics are less likely than whites to attend college. Among high school graduates aged 25 to 29 in 2000, 68 percent of whites, 61 percent of blacks, and 52 percent of Hispanics had completed some college. (See appendix table 2-1 and figure 2-1.) Within each of the racial/ethnic groups for which data are available (white, black, and Hispanic), women are more likely than men to attend college.

Blacks and Hispanics are less likely than whites to enroll in college immediately following high school. In 1997,[2] the percentages of black and Hispanic high school graduates who had enrolled in college the October after completing high school were 59 and 55 percent, respectively, compared with 68 percent of white high school graduates (U.S. ED/NCES 2000a). Immediate enrollment rates for white and black high school graduates increased over the decade, but there was no growth in immediate enrollment rates for Hispanic high school graduates during this period.

Among U.S. citizens and permanent residents,[3] nonwhite enrollment in undergraduate programs increased over the last two decades, both in absolute numbers and as percentages of total undergraduate enrollment. The number

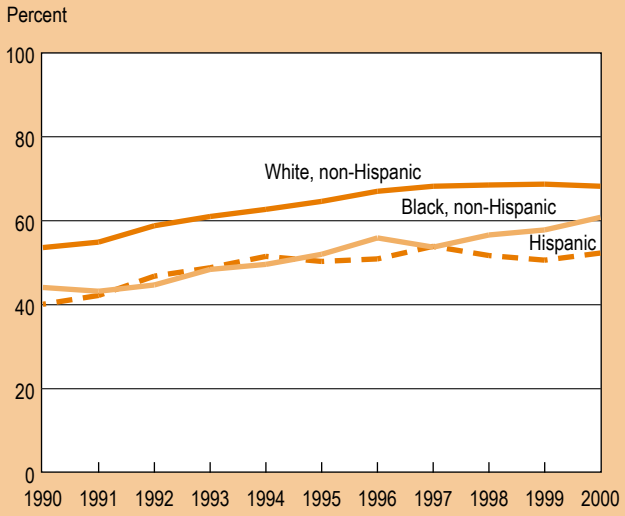
[1] The survey universe for the data presented here is all accredited institutions of higher education. These are primarily 2- and 4-year institutions, but include a small number of less-than-2-year institutions that enroll less than 1 percent of undergraduate students.

[2] Because of small sample sizes for blacks and Hispanics, 3-year averages were calculated here. For example, the 3-year average for blacks in 1997 is the average percentage of black high school completers aged 16 to 24 who were enrolled in college the October after completing high school in 1996, 1997, and 1998.

[3] Data on race/ethnicity of undergraduate students are collected only for U.S. citizens and permanent residents. Comparable data are not collected for students on temporary visas.

of black students rose from approximately 1.1 million in 1990 (10 percent of total undergraduate enrollment) to approximately 1.4 million in 1997 (11 percent of total undergraduate enrollment). (See appendix table 2-2.) Similarly, the number of Hispanic undergraduates grew from about 0.9 million (7 percent) in 1990 to about 1.3 million (10 percent) in 1997, the number of Asian undergraduates grew from approximately 507,000 (4 percent) to approximately 745,000 (6 percent), and the number of American Indian students increased from around 95,000 (0.8 percent) to around 127,000 (1 percent). In contrast, the number of white undergraduates dropped from approximately 9.3 million (78 percent) in 1990 to 8.7 million (71 percent) in 1997.

Figure 2-1
Percentage of 25- to 29-year-old high school completers with some college, by race/ethnicity: 1990–2000



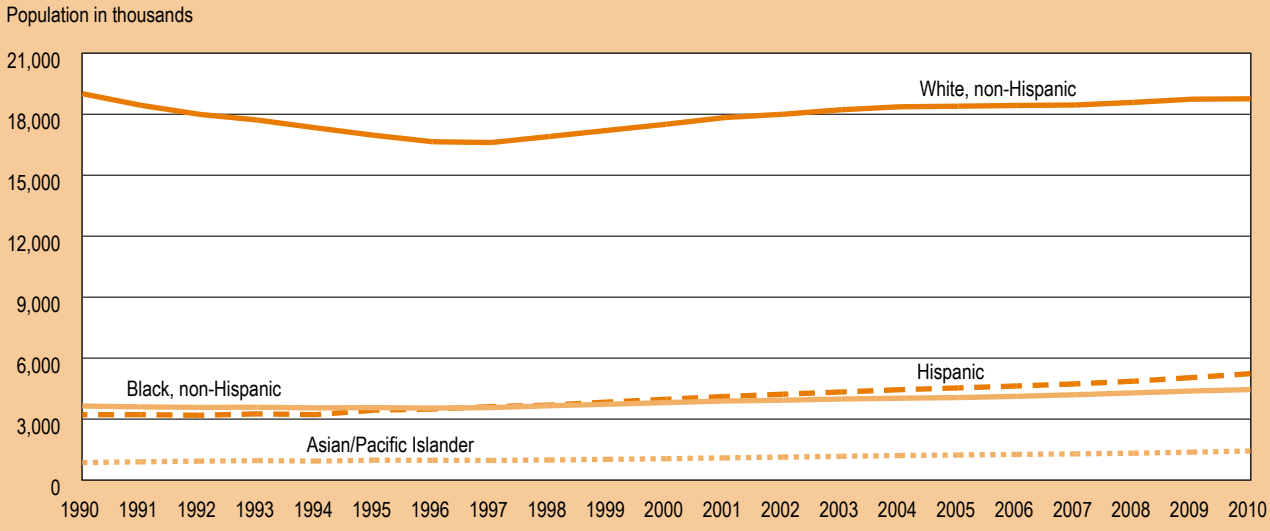
SOURCE: U.S. Bureau of the Census, March Current Population Survey, various years.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2002

Among Asian, black, Hispanic, and American Indian undergraduates, the numbers of both male and female students increased between 1990 and 1997. The numbers of white male and white female undergraduates dropped after peaking in 1991. Declining enrollments for whites may be attributed to declines in the college-age population as a whole. The white college-age population (18- to 24-year-olds) declined steadily from 1990 through 1997. (See figure 2-2.) Between 1990 and 2000, the number of nonwhite 18- to 24-year-olds in the United States increased, mostly within Asian/Pacific Islander and Hispanic subgroups. The black college-age population remained fairly constant in size over the period. The numbers of 18- to 24-year-olds in each racial/ethnic group are expected to increase through 2010.

The percentages of undergraduates in each racial/ethnic group that are women increased between 1990 and 1997; since 1992, more than half of the undergraduate students in each racial/ethnic group have been women. (See appendix table 2-2.)

Figure 2-2
U.S. population ages 18 to 24, by race/ethnicity: July 1990–99 and projections to 2010



SOURCE: U.S. Bureau of the Census, July Current Population Survey.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2002

Students with disabilities

Among 1988 eighth graders who completed high school, students with disabilities were less likely than those without disabilities—63 versus 72 percent—to have enrolled in postsecondary education by 1994.[4] (See appendix table 2-3.) Those who did were less likely than students without disabilities to enroll in 4-year institutions. Findings from the National Education Longitudinal Study indicate that students with disabilities may be less academically prepared for college than those without: they were more likely to have taken remedial courses, were less likely to have taken advanced placement courses, and had lower grade point averages and SAT scores (U.S. ED/NCES 1999b). Academic preparation varied by type of disability. Students with learning disabilities were least academically prepared; those with orthopedic impairments were most academically prepared.

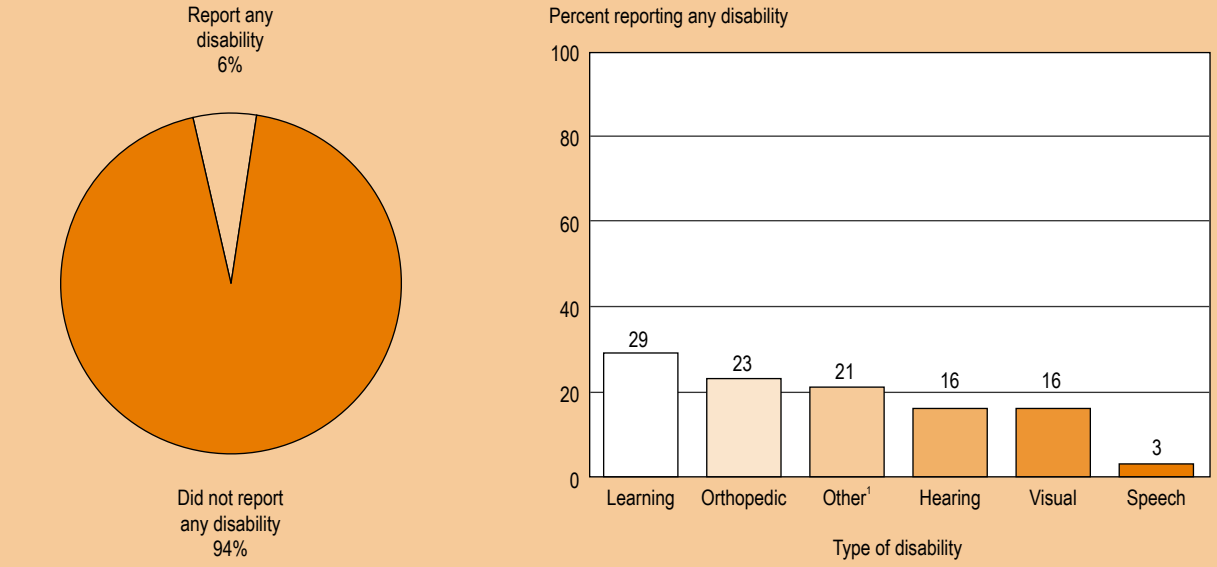
[4]The National Education Longitudinal Study, first conducted in the spring of 1988, surveyed almost 25,000 eighth grade students in public and private schools, their school administrators, their teachers, and their parents. Follow-up surveys were conducted in 1990, 1992, and 1994. Students were considered to have a disability if parents responded in 1988 that their child had one or more disabilities and had received services for same. See appendix A for a description of data sources.

Among 1998 college freshmen, students with disabilities were more likely than those without to have earned Cs and Ds in high school; they were less likely to have met the recommended years of high school study in mathematics, the biological sciences, and the physical sciences; and they spent more time between high school graduation and entry into college than did those without disabilities (Henderson 1999; see appendix A for question wording).

Students with disabilities comprised roughly 6 percent of those enrolled in undergraduate institutions in 1996. (See figure 2-3.) Students with learning disabilities comprised the largest group of students with disabilities. Two groups of students with disabilities who completed high school nearly matched or exceeded the proportion of students without disabilities who had enrolled in postsecondary education by 1994: those with orthopedic and those with visual impairments. (See appendix table 2-3; see appendix A for question wording.)

The percentage of college freshmen reporting disabilities increased from less than 3 percent in 1978 to 9 percent in 2000. Much of the growth in the number and percentage of students with disabilities is due to increased numbers of students with learning disabilities; this group accounted for

Figure 2-3
Percentage of academic year 1995/96 undergraduates who reported any disability and the percentage reporting each disability type: 1996



[1]Any other health-related disability or impairment.

NOTE: Percentages do not total 100 because some students reported multiple disabilities.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Students With Disabilities in Postsecondary Education: A Profile of Preparation, Participation and Outcomes*, NCES 1999-187 (Washington, DC, 1999).

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2002

15 percent of freshmen with disabilities in 1988 and 41 percent in 1998. As a result, the percentage of students with disabilities who reported any other type of disability decreased from 1988 to 1998—for example, students with visual impairments were 31 percent of freshmen with disabilities in 1988 but 13 percent in 1998, while students with orthopedic impairments dropped from 14 to 9 percent (Henderson 1999).

Availability of Institutional Data on Students With Disabilities

To the extent that institutions maintain data on students with disabilities at all, they are only for those students who identify themselves to the institution as having a disability. The basis for identification is varied: 38 percent of the academic institutions surveyed in a recent study by the National Center for Education Statistics (NCES) included students who provided verification of their disabilities, regardless of whether services or accommodations were provided; 28 percent included students to whom services or accommodations were provided; 22 percent included students who identified themselves to the disability services office or coordinator, regardless of verification or provision of services; and 12 percent included students who had been reported to the disability services office or coordinator, regardless of whether that office had any contact with them (U.S. ED/NCES 1999a).The majority of academic institutions do not maintain records of students with disabilities in the general student record system that is accessible to various institutional offices, such as the registrar or the dean of students. About 70 percent of the institutions maintain records of students with disabilities in the disability support services office, and most of those are maintained only in paper files. About 9 percent of institutions maintain no records at all on students with disabilities. Only about one-fifth maintain records of students with disabilities in their general student record system and thus would easily be able to report such data in NCES data collections (U.S. ED/NCES 1999a).

Disability Accommodation

Since the passage of the Americans With Disabilities Act in 1990, more attention has been focused on providing full and equal opportunity for the participation of people with disabilities in employment, public facilities, transportation, state and local government services, and telecommunications. In education, accessibility issues apply not only to those with physical disabilities but also to those with learning disabilities.

Some postsecondary educational institutions now have a disability support services office. In academic year 1997/98, about three-fourths of postsecondary institutions enrolled students with disabilities, and 98 percent provided at least one support service or accommodation for such students. Although students with disabilities were more likely to attend public 2-year institutions than public 4-year institutions, the latter were more likely to provide alternative examination formats or more time to complete exams and to provide readers, note-takers, or scribes, and textbooks on tape (U.S. ED/NCES 2000a).

Demographics

Women

A majority of undergraduate students were women (56 percent) in 1997. Female undergraduates were older, on average, than male undergraduates and were more likely than their male counterparts to be married and to have dependents. Thirty percent of female undergraduates were 30 or older in 1996, compared with 23 percent of male undergraduates. (See appendix table 2-4.)

Minorities

About 29 percent of U.S. citizen and permanent resident undergraduate students in 1997 were nonwhite: 11 percent were black, 10 percent Hispanic, 6 percent Asian, and 1 percent American Indian. (See appendix table 2-2.) Black, Hispanic, and American Indian students were more likely than members of other racial/ethnic groups to be single parents and to come from families with low incomes. Among dependent undergraduates (i.e., students dependent on their parents for financial support), about 12 percent of white students came from families with annual incomes below $20,000, compared with 40 percent of black, 38 percent of Hispanic, 37 percent of American Indian, and 29 percent of Asian students. Black and American Indian students were also older on average than students from other racial/ethnic groups. (See appendix table 2-4.) Hispanic and black students

were more likely than those from other racial/ethnic groups to be first-generation college students (U.S. ED/NCES 2000a).

Students with disabilities

On average, undergraduate students with disabilities[5] are older than those without and are more likely to have dependents. In academic year 1995/96, students with disabilities were more likely than those without disabilities to be male (50 percent versus 44 percent); they were also more likely to be white (81 percent versus 71 percent). (See appendix table 2-5.)

Enrollment status

According to the most recent data, women are more likely than men to be enrolled on a part-time basis. (See appendix table 2-6.) Students of both sexes are more likely to attend college part time when they attend public as opposed to private institutions. Part-time enrollment is greater in public than in private institutions for all racial/ethnic groups. In public institutions, Hispanics are more likely to attend college part time than members of other racial/ethnic groups. There was no difference in full- versus part-time enrollment among students with and without disabilities in 1996. (See appendix table 2-5.)

Two-year institutions

More than 10 million students are enrolled in the approximately 1,200 community and technical colleges in the United States. These colleges award almost a half-million associate's degrees and nearly 200,000 certificates each year (AACC 2000). Community and technical colleges are attractive to many students because of their low cost, open admission policies, and flexible schedules. Community colleges often serve as a bridge between high school and 4-year colleges for students who may need additional academic skills or who find 2-year colleges an inexpensive means of completing the first 2 years of a college education before transferring to a 4-year school. About one-third of traditional-age students enrolled in a community college plan to transfer at some point to a 4-year institution. About 22 percent of those postsecondary students who entered a public 2-year institution in 1989/90 had transferred to a 4-year institution within the next 5 years (U.S. ED/NCES 1998).[6]

Although a large proportion of undergraduate enrollment is in 2-year colleges (44 percent), relatively few of these students earn associate's degrees, and fewer still earn them in S&E fields. Among beginning students at 2-year colleges in the 1989/90 school year, only 24 percent had earned an associate's or higher degree by 1994 (U.S. ED/NCES 1998). As is discussed in chapter 3, only 13 percent of these students earning associate's degrees were in S&E—primarily in either computer science or engineering technologies.

Women

Total undergraduate enrollment in 2-year colleges held steady from 1994 through 1997 at about 5.5 million students. Women accounted for more than half (57 percent) of total enrollment in 2-year colleges in 1997; this was the same proportion as in 1990. (See appendix table 2-7.)

Minorities

Higher percentages of Hispanic and American Indian undergraduates than members of other racial/ethnic groups are enrolled in 2-year colleges—54 percent of Hispanics and 51 percent of American Indians in 1997, compared with 46 percent of Asians and blacks and 42 percent of whites. (See text table 2-1.)

Text table 2-1
Percentage of total undergraduate enrollment at 2- and 4-year institutions, by sex and race/ethnicity: Fall 1997

Sex and race/ethnicity	2-year institutions	4-year institutions
Total enrollment	43.9	56.1
Male	42.8	57.2
Female	44.7	55.3
White	42.2	57.8
Asian/Pacific Islander	45.7	54.3
Black	46.2	53.8
Hispanic	54.3	45.7
American Indian/Alaskan Native	51.5	48.5

NOTE: Data on race/ethnicity are for U.S. citizens and permanent residents only and do not include students on temporary visas.

SOURCE: Tabulations by National Science Foundation, Division of Science Resources Statistics; data from U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Fall Enrollment Survey.

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2002

[5] In the National Center for Education Statistics 1995/96 National Postsecondary Student Aid Study, students with disabilities were identified on the basis of their response to the question "Do you have any disabilities, such as hearing, speech, mobility impairment, or vision problems that can't be corrected with glasses?" See appendix A for question wording.

[6] These data are from the National Center for Education Statistics Beginning Postsecondary Students Longitudinal Study. See U.S. ED/NCES (1997) for a detailed discussion of transfer behavior.

The numbers of Asians, blacks, Hispanics, and American Indians (both men and women) enrolled in 2-year institutions have been increasing since 1990. On the other hand, the numbers of white women and white men enrolled in 2-year institutions have declined since the early 1990s. (See appendix table 2-7.)

Hispanic-serving institutions and tribal colleges tend to be 2-year institutions. Just over half of all Hispanic-serving institutions (53 percent) are 2-year institutions of higher education (White House Initiative on Educational Excellence for Hispanic Americans n.d.). Of the 32 tribal colleges or universities in the United States in 2001, the majority offered primarily 2-year certificates and degrees; only 6 offered 4-year degrees (AIHEC 2001).

Students with disabilities

Approximately 46 percent of all students with disabilities enrolled in public 2-year institutions compared with 50 percent of those without disabilities (U.S. ED/NCES 1999b).

Four-year institutions

More than half (56 percent) of all undergraduates, and almost three-fourths (73 percent) of full-time undergraduates, were enrolled in 4-year colleges and universities in 1997. (See text table 2-1 and appendix tables 2-2 and 2-9.) The number of students enrolled in 4-year institutions increased from 1995 through 1997 after a drop in the early 1990s.

Women

The number of women enrolled at 4-year institutions increased from 1990 to 1997, while the number of men decreased. Women accounted for 55 percent of all undergraduate students at 4-year institutions in 1997, up from 53 percent in 1990. (See appendix table 2-8.)

International Comparison of Women's Undergraduate Enrollment

Among first university degree students around the world enrolled in programs leading to an undergraduate degree, women make up more than half of the enrollees in Australia, Canada, France, Italy, Spain, the United Kingdom, and the United States. They are almost half of the enrollees in Mexico and less than half in Germany, Japan, Korea, and Turkey. (See appendix table 2-9.)

Minorities

A majority of white (58 percent), black (54 percent), and Asian (54 percent) undergraduate students were enrolled in 4-year institutions in 1997. (See text table 2-1 and appendix tables 2-2 and 2-9.) Although the numbers of white men and women enrolled in such institutions in that year had declined from their 1991 peaks, the numbers of Asian, black, Hispanic, and American Indian men and women enrolled in 4-year institutions had been increasing. In 1997, 11 percent of U.S. citizen and permanent resident undergraduates at 4-year institutions were black, 8 percent Hispanic, 6 percent Asian, and 1 percent American Indian; the remaining 74 percent were white.

Students with disabilities

Students with disabilities are less likely to enroll in 4-year colleges than those without disabilities: 40 percent versus 47 percent. (See appendix table 2-5.)

Declining Male Enrollments

The decline in the percentage of undergraduates who are male (from 58 percent of all undergraduates in 1968 to 44 percent in 1997) has been the subject of numerous conferences and articles and has led to some calls for "affirmative action" for males (Brownstein 2000). These declining percentages have occurred in total enrollment, total bachelor's degrees, and S&E bachelor's degrees and among all racial/ethnic groups. In absolute terms, only the numbers of white male students have decreased; the numbers of Asian, black, Hispanic, and American Indian male undergraduates and bachelor's degree recipients have increased since at least 1989.

The greatest disparity between male and female enrollment (and also between male and female degree attainment) occurs among minorities and low-income students (King 2000). This disparity between male and female enrollment and the decrease in the percentage of undergraduates who are male is attributable in the case of Asians, blacks, Hispanics, and American Indians to a more rapid increase in the numbers of female than of male students. In the case of whites, the decrease in the percentage of undergraduates who are male is due to a decline in the number of male students, concurrent with an increase in the number of female students. The white college-age population (18- to 24-year-olds) declined from 1990 through 1997 across both sexes, but white women's enrollment continued to increase.

Field choice

Large differences exist between men and women, but lesser differences exist by race/ethnicity (with the exception of Asians), regarding intentions to major in science and engineering. In 2000, 29 to 35 percent of white, black, Hispanic, and American Indian freshmen and 42 percent of Asian freshmen intended S&E majors. (See appendix table 2-10.) Roughly equal percentages of whites, blacks, Hispanics, and American Indians intended to major in the physical and biological sciences, mathematics, and engineering. Black and Asian freshmen were more likely than members of other groups to plan majors in computer science, and Asian freshmen were more likely to plan majors in the biological sciences and engineering. Black, Hispanic, and American Indian freshmen were more likely than whites or Asians to plan majors in the social and behavioral sciences. Within each racial/ethnic group, women were less likely than men to intend to major in S&E overall; however, women were more likely than men to intend to major in the social and behavioral sciences and in the biological and agricultural sciences.

Students with disabilities are as likely as students without disabilities to choose S&E majors at 4-year institutions. Among undergraduates in the 1995/96 school year, roughly equal percentages of students with and without disabilities were majoring in science and engineering. (See appendix table 2-5; see appendix A for question wording.)

Engineering enrollment

Overall, total undergraduate engineering enrollment decreased during the 1990s, dropping from approximately 380,000 in 1990 to 361,000 in 1999.

Women

Women accounted for 20 percent of total undergraduate enrollment in engineering programs in 1999, up from 16 percent in 1990. (See appendix table 2-11.) They accounted for a slightly lower percentage (19 percent) of full-time first-year engineering enrollment in 1999. The number of women enrolled in undergraduate engineering programs increased every year from 1990 to 1998, dropping slightly in 1999; the number of men declined in most years during the 1990–99 period.

Minorities

Enrollment of white students in engineering characterized the general pattern of total undergraduate engineering enrollment, but the trends for other racial/ethnic groups followed different patterns. Asian, Hispanic, and American Indian enrollments in engineering generally increased between 1990 and 1999. Black enrollment peaked in 1993 and dropped in 4 of the 6 years from 1994 to 1999. (See appendix table 2-11.)

The percentages of Asian, black, Hispanic, and American Indian undergraduates enrolled in engineering programs increased between 1990 and 1999, while the percentage of whites decreased. (See figure 2-4 and appendix table 2-11.)

Asian, black, Hispanic, and American Indian women accounted for larger percentages of engineering enrollment of their respective racial/ethnic groups than did white women. Black women were 34 percent of black engineering enrollment; Asian, Hispanic, and American Indian women were between 23 and 25 percent of the enrollment of their respective racial/ethnic groups; and white women were 18 percent of white engineering enrollment in 1999. (See appendix table 2-12.)

Financial aid

One of the primary means of access to a university is financial aid in the form of loans, grants, and scholarships. After considering the academic reputation and door-opening opportunities, the offer of financial assistance is the next most important reason college freshmen cite in choosing to attend a particular university (HERI 2000). Despite a recent increase in student aid across the United States, many academically qualified low-income students still cannot afford to go to or stay in college (ACSFA 2001). In the last decade, the cost of college attendance has increased as a share of family income only among the lowest income students. Even after all possible sources of aid are exhausted, low-income students still have an average of $3,500 in unmet needs (ACSFA 2001).

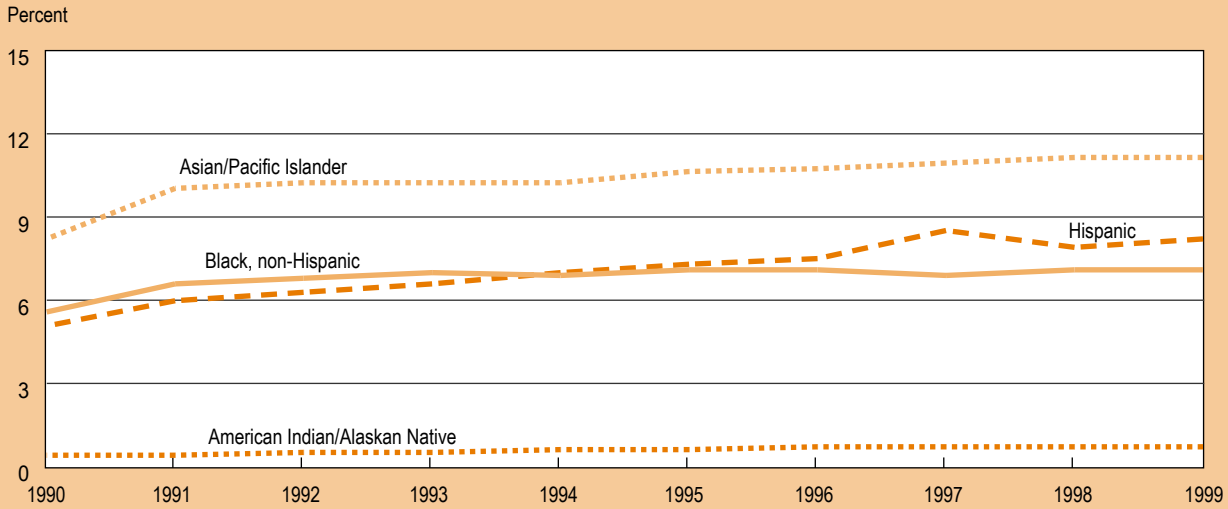
Female undergraduates are more likely than male to receive financial aid (52 percent versus 47 percent in 1995/96); blacks, Hispanics, and American Indians are more likely than whites and Asians to receive financial aid. (See appendix table 2-13.) The average amount of aid received in 1995/96, the most recent academic year for which data are available, was smaller for women than for men and smaller for blacks, Hispanics, and American Indians than for whites and Asians.

There were no statistically significant differences between students with and without disabilities in their receipt of financial aid in 1995/96: about half of both groups received financial aid. (See appendix table 2-5.)

Retention

Some of the factors related to persistence in undergraduate education are age, enrollment status, socioeconomic status, and level (i.e., 2 year versus 4 year) of first institution. Those entering postsecondary education at age 17 or 18 are more likely to complete a bachelor's degree in 5 years than those entering at older ages. Those who initially enroll on a full-time basis are more likely to complete their degree than

Figure 2-4
Percentage of undergraduate engineering students who are members of minority groups: 1990–99



NOTE: Data on race/ethnicity are for U.S. citizens and permanent residents only and do not include students on temporary visas.

SOURCE: American Association of Engineering Societies, Engineering Workforce Commission, special tabulations (Washington, DC).

Women, Minorities, and Persons With Disabilities in Science and Engineering: 2002

those enrolled part time.[7] Students from families with higher income and higher level of parental education are more likely to complete their degree than those whose families have lower incomes and less education. And those who begin undergraduate programs in 4-year institutions are more likely to attain a bachelor's degree within 5 years than those who begin in 2-year institutions (U.S. ED/NCES 1998).

All of these factors are related to differences in undergraduate retention by race/ethnicity. Blacks, Hispanics, and American Indians are less likely than whites and Asians to complete college. Blacks enter college at older ages. Blacks, Hispanics, and American Indians are more likely than whites and Asians to come from low-income families. Hispanics are more likely than members of other groups to begin undergraduate programs in 2-year institutions.

Women

Women and men are about equally likely to graduate from college. Among those who were 25 to 29 years old in 2000 and had completed high school, 34 percent of women and 32 percent of men had earned a bachelor's degree or higher. (See appendix table 2-1.)

Women are more likely than men to complete a bachelor's degree within 5 years. Among students who entered a bachelor's degree program in 1989, 50 percent of women compared to 41 percent of men had earned a bachelor's degree by spring 1994.[8] (See appendix table 2-14.) Additionally, a higher percentage of men than of women (31 versus 26 percent) had earned no degree and were no longer enrolled toward a bachelor's degree 5 years later.

Data from the Higher Education Research Institute and the National Center for Education Statistics suggest that women do not have higher attrition from S&E programs than do men. The percentage of freshmen women intending S&E majors in 1994 (27 percent) is close to the percentage earning S&E bachelor's degrees in 1998 (28 percent). (See appendix table 2-15.) Furthermore, longitudinal data indicate that higher percentages of female than of male S&E students in academic year 1989/90 completed degrees in science and engineering by 1994, and a lower percentage of female than of male S&E students switched out of science and engineering during this time (U.S. ED/NCES 2000b).

[7]The source publication (U.S. ED/NCES 1998) does not indicate whether there is any interaction between age and enrollment status in persistence in undergraduate education.

[8]These data are from the National Center for Education Statistics Beginning Postsecondary Students Longitudinal Study, which followed a group of students first enrolled in undergraduate institutions in the 1989/90 school year through 1994. The data permit comparisons by sex, race/ethnicity, and disability status in persistence toward a bachelor's degree.

Minorities

Blacks and Hispanics are less likely than whites to graduate from college. Among those who were 25 to 29 years old in 2000 and had completed high school, 21 percent of blacks and 15 percent of Hispanics, compared to 36 percent of whites, had earned bachelor's degrees or higher. (See appendix table 2-1.) Small sample sizes in the Census Bureau's Current Population Survey do not permit reporting of data on the educational attainment of Asians and American Indians.

Black and Hispanic students are less likely than their white and Asian counterparts to complete a bachelor's degree within 5 years. Forty-eight percent of whites, 47 percent of Asians, 34 percent of blacks, and 32 percent of Hispanics who entered a baccalaureate program in 1989 had earned their degree by spring 1994. Thirty-seven percent of both black and Hispanic students, compared with 27 percent of white students and 26 percent of Asian students, had earned no degree and were no longer enrolled in a bachelor's program in 1994. (See appendix table 2-14.) Again, small sample sizes do not permit reporting of data on the undergraduate persistence and attainment of American Indian students.

Blacks, Hispanics, and American Indians do not appear to have higher attrition rates vis-à-vis science and engineering than whites. About 30 to 35 percent of white, black, Hispanic, and American Indian freshmen intended S&E majors in 1994. Similarly, about 30 to 35 percent of white, black, Hispanic, and American Indian bachelor's recipients in 1998 received their degrees in these fields. (See appendix table 2-15.) Longitudinal data show little difference by race/ethnicity for blacks, Hispanics, and whites in natural science and engineering enrollment rates[9] across 5 academic years from 1989/90 through 1993/94—approximately 17 percent (U.S. ED/NCES 2000b).

Students with disabilities

Students with disabilities are less likely than those without to be enrolled in a bachelor's degree program or to have earned a bachelor's degree within 5 years. Fifty-three percent of students with disabilities who were enrolled in the 1989/90 academic year were still enrolled or had attained a degree by 1994, compared with 64 percent of those without disabilities. (See appendix table 2-16 and appendix A for question wording.) Conversely, a higher proportion of those with disabilities (47 percent) than of those without (36 percent) had left college without earning a degree or certificate.

[9]Defined as enrollment in science and engineering (excluding the social sciences and psychology) divided by total undergraduate enrollment.

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